

1.82 Where a cooling system operates continuously, and it is therefore only possible for the system to be completely shut down infrequently, additional control measures and monitoring may be required to ensure cleanliness and minimise the risk. Such measures may include:

- continuous automated dosage and control of oxidising biocide;
- maintaining the correct pH level when using oxidising biocides;
- dosage of additional dispersants and biodispersants;
- side-stream filtration, possibly linked to a cooling tower basin sweeping system;
- more frequent microbial monitoring (eg monthly legionella sampling);
- online disinfection procedures;
- partial system shutdowns (eg single cooling tower cells) to allow inspection and cleaning of that part of the system.

When and how often should a cooling system be inspected?

1.83 Effective water treatment will slow the rate of fouling but will not completely eliminate it or prevent fouling caused by airborne contamination. It is therefore necessary to inspect parts of the cooling tower system regularly to determine the cleanliness, need for cleaning and type of cleaning process required. Provision should be made to allow access to these parts safely.

1.84 The frequency with which these inspections should be scheduled will vary depending on the fouling potential and should be determined by the history of previous cleans and an assessment of the likelihood of fouling, based on the water treatment history and the environment in which the cooling tower is operating. The following timescales, though not prescriptive, can be considered typical for different situations:

- at least every 3 months for a cooling system in a dirty environment (eg a tower that is prone to process or environmental contamination);
- at least twice a year for an air conditioning comfort cooling system;
- at least every 12 months for a 'clean' industrial application and any others.

1.85 Paragraphs 1.114-1.129 provide guidance on the tests for monitoring water quality and water treatment analytical reports. The responsible person and their water treatment provider should review the results jointly and agree any necessary actions. In addition to the monthly water treatment reports, Table 1.2 illustrates how the history of the water analysis and other fouling factors might help decide how often to inspect and clean the system and predict the risk of an increase in fouling over a period.